

FACT SHEET
CLASS I WELLS

I. Background Information

1. Owner/Operator: City of Hutchinson
Address: P.O. Box 1567, Hutchinson, KS 67504-1567
2. The applications for permits pertain to three deep disposal wells (two already drilled) located in SE of Section 21, Township 23 South, Range 5 West, Reno County, Kansas.

Well Name	Permit No.	Latitude	Longitude
Well #1	KS-01-155-011	38.032379	-97.880186
Well #2	KS-01-155-009	38.032509	-97.884793
Well #3	KS-01-155-010	38.032450	-97.8824899

II. Injection Details

1. Injection into all three wells will be made into the Arbuckle formation through openhole from a depth of approximately 4225 feet to 4780 feet.
2. Disposal will be by means of gravity flow; wellhead pump pressure will not be allowed.
3. The maximum rate of injection will be 2,300,000 gallons per day for each well.

III. Description of Waste and Fluids to be injected.

The fluids to be injected are described as non-hazardous liquid waste consisting of effluent from reverse osmosis water treatment and water from groundwater remediation projects approved by KDHE.

IV. Description of Disposal Formation

The Arbuckle formation is a sequence of dolomites, limestones and occasional sandstone units which are extensively used for disposal of oil field brine and treated industrial wastewater in Kansas. In north-central Reno County, the Arbuckle is approximately 750 feet in thickness and the top of the sequence is encountered at a depth of approximately 4150 feet. The Arbuckle formation is capable of receiving large quantities of fluid without use of wellhead pressure because of its porous and permeable nature.

V. Chemical Characteristics of Disposal Formation Waters

The connate disposal formation waters in the vicinity of these wells exceed the "usable" water standards of 10,000 mg/l total dissolved solids.

VI. Construction, Monitoring, and Operation of Well

All construction, monitoring, and operation of these wells has or will meet the requirements that apply to Class I injection wells as outlined in the Kansas Underground Injection Control Regulations, K.A.R. 28-46-1 through 28-46-44. The applicant must agree to all conditions stated in the final permit as required by the Department.

VII. Basis for Draft Permit Conditions

1. General

- (a) Applicable Federal laws
- (b) Applicable Federal regulations
- (c) Applicable State statutes
- (d) Applicable State regulations
- (e) Applicable State and Federal waste quality standards
- (f) Technical guidance and reference documents
- (g) Permit application and supporting documents
- (h) Technical expertise and professional judgment of permit writers and Department technical staff
- (i) Technical input and consultation with Federal, State and Local agencies and representatives of citizen groups

2. Specific

The following specific documents were used to draft permit limitations, conditions, operating procedures, monitoring and reporting requirements:

- (a) Clean Water Act (Public Law 100-4)
- (b) Resource Conservation and Recovery Act
- (c) Safe Drinking Water Act
- (d) Toxic Substances Control Act
- (e) 40 CFR Parts 122-125, 136, 144-148, 233, 251, 260-271 and Guidance 1425
- (f) K.S.A. Chapter 65
- (g) Hazardous Waste Management Articles 31 and 34
- (h) Kansas UIC Regulations 28-46-1 through 28-46-44
- (i) Drinking Water Standards (Public Law 93-523, 40 CFR Part 141)
- (j) K.A.R. 28-15-11 through
- (k) EPA-600/2-77-240, An Introduction to the Technology of Subsurface Wastewater Injection

- (l) Type Logs of Kansas published by the Kansas Geological Society
- (m) U.S.G.S. Professional Paper 708, Groundwater Hydraulics
- (n) Freeze and Cherry - Groundwater
- (o) Davis and DeWiest - Hydrogeology
- (p) Applicable bulletins and other related publications by the Kansas Geological Survey
- (q) Applicable publications by the U.S. Geological Survey
- (r) Warner and Lehr - Subsurface Wastewater Injection

VIII. Area of Review

The area of review, as specified in K.A.R. 28-46-32, has been examined by the Department.

IX. Evidence of Financial Responsibility

The City of Hutchinson has established the necessary financial assurance for the future plugging and abandonment of these wells by submission of a financial test.

X. Final Determination Procedures

In anticipation of public interest and a desire to comment, the agency has allowed 30 days from the date of the public notice to submit comment.

XI. Additional information may be obtained from:

Cynthia Khan, P.G.
Bureau of Water
Kansas Department of Health and Environment
1000 SW Jackson St. Suite 420
Topeka, Kansas 66612
(785) 296-5554